No. 7300097

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Purdue University
Agricultural Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF seventeen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS CERTIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'Wells'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 22nd *day of* March *in the year of our Lord one thousand nine hundred and* seventy-four

PLANT VARIETY PROTECTION OFFICE

Attest:

L. R. Rollin

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Earl L. Butz

Secretary of Agriculture

FORM GR-470
(12-15-72)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1. VARIETY NAME OR TEMPORARY DESIGNATION	2. KIND NAME	FOR OFFICIAL USE ONLY
Wells	Soybeans	PV NUMBER 73097
3. GENUS AND SPECIES NAME	4. FAMILY NAME *(Botanical)*	FILING DATE 6·14·73 / TIME 4:00 P.M.
Glycine max	Leguminosae	FEE RECEIVED $250.00 / BALANCE DUE $ —
	5. DATE OF DETERMINATION	$250.00 / $ —
	August 1, 1972	$250.00 / $ —

6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*	8. TELEPHONE AREA CODE AND NUMBER
Purdue University Agricultural Experiment Station	Agricultural Experiment Station Purdue University West Lafayette, Indiana 47907	317-749-2461

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION
Division of Land Grant University	Established by Federal Law Hatch Act, 1889	1889

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:

Dr. H. H. Kramer, Director
Agricultural Experiment Station
Purdue University
W. Lafayette, Indiana 47907

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

[X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

[X] 13B. Exhibit B, Botanical Description of the Variety

[X] 13C. Exhibit C, Objective Description of the Variety

[X] 13D. Exhibit D, Data Indicative of Novelty

[X] 13E. Exhibit E, Statement of the Basis of Applicant's Ownership

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [X] YES [ ] NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? [XX] YES [ ] NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? [X] FOUNDATION [X] REGISTERED [X] CERTIFIED

The applicant declares that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable.

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is distinct, uniform, and stable as required in Section 41 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

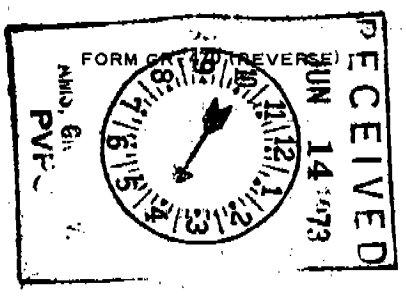
Applicant is informed that false representation herein can jeopardize protection and result in penalties.

16 May, 1973
(DATE)

Herbert H Kramer
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)



INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and $250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, 6525 Belcrest Road, Hyattsville, Maryland 20782. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

5 Insert the date the applicant determined that he had a new variety based on the definition in Section 41 (a) of the Act and decision is made to increase the seed.

13a First, give the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. Second, give the details of subsequent stages of selection and multiplication. Third, indicate the type and frequency of variants during reproduction and multiplication and state how these variants may be identified. Fourth, provide evidence on stability.

13b First, give any special characteristics of the seed and of the plant as it passes through the seedling stage, flowering stage and the fruiting stage. Second, describe the mature plant and compare it with a similar commercial variety grown under the same conditions, and indicate the differences.

13c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

13d Provide complete data indicative of novelty. Seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty may be submitted. Seeds submitted may be sterile.

13e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

FORM GR-470-2
(6-15-72)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY

SOYBEAN *(GLYCINE MAX)*

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)

Purdue University Agricultural Experiment Station

ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code)*

Agricultural Experiment Station
Purdue University
West Lafayette, Indiana 47907

FOR OFFICIAL USE ONLY

PVPO NUMBER: 73097

VARIETY NAME OR TEMPORARY DESIGNATION: WELLS

Place the appropriate number that describes the varietal character of this variety in the boxes below.

1. SEED SHAPE:

[1] 1 = SPHERICAL 2 = SPHERICAL FLATTENED 3 = ELONGATE 4 = OTHER *(Specify)*

2. SEED COAT COLOR:

[1] 1 = YELLOW 2 = GREEN 3 = BROWN 4 = BLACK 5 = OTHER *(Specify)* _____

SHADE: [2] 1 = LIGHT 2 = MEDIUM 3 = DARK

3. SEED COAT LUSTER:

[1] 1 = DULL 2 = SHINY

4. SEED SIZE

[1][6] GRAMS PER 100 SEEDS

5. HILUM COLOR:

[5] 1 = BUFF 2 = YELLOW 3 = BROWN 4 = GRAY 5 = IMPERFECT BLACK 6 = BLACK 7 = OTHER *(Specify)*

SHADE: [2] 1 = LIGHT 2 = MEDIUM 3 = DARK

6. COTYLEDON COLOR:

[1] 1 = YELLOW 2 = GREEN

7. LEAFLET SIZE *(See Reverse)*:

[2] 1 = SMALL 2 = MEDIUM 3 = LARGE

8. LEAFLET SHAPE:

[1] 1 = OVATE 2 = OBLONG 3 = LANCEOLATE 4 = ELLIPTICAL 5 = OTHER *(Specify)*

9. LEAF COLOR *(See reverse)*:

[2] 1 = LIGHT GREEN 2 = MEDIUM GREEN 3 = DARK GREEN

10. FLOWER COLOR:

[2] 1 = WHITE 2 = PURPLE 3 = OTHER *(Specify)* _____

11. POD COLOR:

[2] 1 = TAN 2 = BROWN 3 = BLACK

12. POD SET:

[1] 1 = SCATTERED 2 = CONCENTRATED

13. PLANT PUBESCENCE COLOR:

[1] 1 = GRAY 2 = BROWN 3 = OTHER *(Specify)*

SHADE: [2] 1 = LIGHT 2 = MEDIUM 3 = DARK

14. PLANT TYPES *(See Reverse)*:

[3] 1 = SLENDER 2 = BUSHY 3 = INTERMEDIATE

15. PLANT HABIT:

[2] 1 = DETERMINATE 2 = INDETERMINATE 3 = OTHER *(Specify)* _____

16. HYPOCOTYL COLOR:

[2] 1 = GREEN 2 = PURPLE

17. SEED PROTEIN:

[–] 1 = A 2 = B

18. NUMBER OF DAYS TO FLOWERING
(Place a zero in first box (e.g. [0][9]) when days are 9 or less.)

[4][1]

19. MATURITY GROUP:

[4] 1 = 00 2 = 0 3 = I 4 = II 5 = III 6 = IV 7 = V 8 = VI 9 = VII 10 = VIII

20. SIZE OF 10 DAY OLD SEEDLING GROWN UNDER CONSTANT LIGHT *(Growth Chamber)* **AT 25° C.** *(Place a zero in first box (e.g. [0][2]) when size is 9 mm. or less.)*

[0][5][5] MM. LENGTH OF SEEDLING

[2][0] MM. LENGTH OF COTYLEDON

[1][3] MM. WIDTH OF COTYLEDON

21. DISEASE: *(Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)*

[1] BACTERIAL PUSTULE	[1] SOYBEAN CYST	[1] DOWNY MILDEW	[1] PURPLE STAIN	[1] POD AND STEM BLIGHT	[0] ROOT KNOT
[2] FROGEYE	[0] STEM CANKER	[2] PHYTO-PHTHORA	[1] BROWN STEM ROT	[0] TARGET SPOT	[1] BROWN SPOT
[1] BUD BLIGHT	[0] WILDFIRE	[0] RHIZOCTONIA ROT	[ ] OTHER *(Specify)*		

Exhibit A

Origin and Breeding History of the Variety

Wells

Wells soybean [Glycine max L. (Merr.)] is an F_6 plant selection from the cross C1266R [Sel. from Harosoy × C1079 (Sel. from Lincoln × Ogden)] × C1253 [Sel. from Blackhawk × Harosoy].

The original cross, designated CX403, was made in 1962 by Dr. A. H. Probst, USDA Agronomist, at the Purdue Agricultural Experiment Station. The F_1 through F_6 generations were grown from 1962-1964 in the field or in the greenhouse at the Purdue University Agricultural Experiment Station. Phytophthora root rot inoculations, to screen for resistance to this disease, were made during this time by F. A. Laviolette and Dr. K. L. Athow, Purdue Botany and Plant Pathology Department.

In 1964, 364 phytophthora root rot resistant selections were grown in three-foot rows at Lafayette, Indiana. The selection CX403-141 was grown in yield trials at Lafayette, Indiana in 1965 and 1966 and at Bluffton and Lafayette, Indiana in 1967-1968 under the direction of Dr. A. H. Probst, USDA Research Agronomist.

The selection CX403-141 was designated C1470 and in 1968 was grown in Preliminary Test II of the Uniform Soybean Tests Northern States conducted by the U.S. Regional Soybean Laboratory, Urbana, Illinois. The tests were grown in Illinois, Indiana, Iowa, Michigan, Missouri, Nebraska, Ohio, South Dakota, Wisconsin, and in Ontario, Canada. From 1969-1972, C1470 was grown in Uniform Test II of the Uniform Soybean Tests Northern States conducted by the U.S. Regional Soybean Laboratory, Urbana, Illinois, in Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New York, Ohio, Pennsylvania, South Dakota, Wisconsin, and in Ontario, Canada.

Forty-four rows of breeders seed were grown in 1969 at Lafayette, Indiana, to produce 136 pounds of breeders seed. In 1971 the breeders seed was divided among the releasing states of Illinois, Indiana, Iowa, Ontario, South Dakota, and Wisconsin. The strain was named Wells and publicity released on August 1, 1972.

Exhibit B

Botanical Description of the Variety

Wells

Wells soybean is an early Group II variety, has purple flowers, gray normal pubescence, brown pods, and dull yellow seeds with imperfect black hila. Wells has medium sized ovate leaves and an indeterminate habit of growth. Wells is susceptible to bacterial blight, caused by Pseudomonas glycinea, bacterial pustule, caused by Xanthomonas phaseoli var. sojensis, brown spot, caused by Septoria glycines, brown stem rot, caused by Cephalosporium gregatum, downy mildew, caused by Peronospora manshurica, and powdery mildew, caused by Microsphaera diffusa. It is resistant to frogeye leafspot, race 2, caused by Cercospora sojina, and to phytophthora root rot caused by Phytophthora megasperma var. sojae. Wells has low peroxidase activity in the seedcoat, flowers in about 70 days under a 20-hour cool white fluorescent photoperiod, and a hypocotyl length averaging 16 cm after germinating 9 days at 25° C, a critical temperature for differentiating strains.

Exhibit D

Data Indicative of Novelty

Wells

Wells, which is of Group II maturity can be distinguished from most other soybean varieties on a maturity basis. The imperfect black hilum of Wells distinguishes it from the Group II varieties Amsoy, Amsoy 71, Bonsei, Corsoy, Harosoy, Harosoy 63, Magna, and Prize, all of which have yellow hila; from Lindarin, Lindarin 63, and Mukden, all of which have buff hila; from Henry and Richland which have gray hila; and from Provar which has a brown hilum. Wells is resistant to frogeye leafspot, race 2, and this distinguishes it from Hawkeye, Hawkeye 63, and Protana which are all susceptible to this disease. Wells is similar to Beeson in many characteristics, however, Wells matures five days earlier than Beeson and is susceptible to powdery mildew caused by Microsphaera diffusa. Beeson is resistant to powdery mildew.

EXHIBIT E

Application for Varietal Protection of "Wells" Soybeans

Purdue University is the sole owner of "Wells" Soybeans.

Signed H H Kramer

H. H. Kramer
Director, Purdue University
Indiana Agricultural Experiment Station

Exhibit E

MASTER MEMORANDUM OF UNDERSTANDING

between

THE INDIANA AGRICULTURAL EXPERIMENT STATION

and

THE UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

Relative to Cooperative Research

C.6.b. "Plants, seeds, and plant materials used in this cooperative undertaking will be provided by the parties from time to time as mutually agreed upon. Such plants, seeds, and plant materials produced hereunder as may not be needed in this undertaking but may be needed in other research conducted by either party, shall be available to such party. New varieties or strains obtained through the cooperation shall be distributed for commercial growing, as and when mutually agreed upon. All plants, seeds, and plant materials produced and not needed in this undertaking or in other research, as provided above, shall be the property of the Agricultural Experiment Station which agrees to make to the Agricultural Research Service such reports of disposition as may be mutually agreed upon."

Effective August 1, 1957

Signed: E. L. Butz, Director
Indiana Agricultural Experiment Station

Signed: B. T. Shaw, Research Administrator
Agricultural Research Service
U. S. Department of Agriculture

[illegible] CROP IMPROVEMENT ASSOCIATION
Post Office Box 21008
Lansing, Michigan 48909

[illegible] NATIONAL BANK

3028

M.C.I.A. $ 2dls 00cts 3-25-77 3028 $2.00

USDA - AMS
Plant Variety Protection Office, Grain Div.
Nat'l. Agric. Library
Beltsville, Maryland 20705

Dennis C. Freeman

02 ⑆072400117⑆ 326008862⑈

3-25-77 Variety Description

73097
Soybean
'Wells'

dlc

MICHIGAN CROP IMPROVEMENT ASSOCIATION

517/355-7438

P. O. Box 21008
Lansing, Michigan 48909

March 25, 1977

Mr. Stanley Rollin
Plant Variety Protection Commission
U.S. Department of Agriculture
Agricultural Marketing Service
Washington, D.C. 20250

Dear Mr. Rollin:

We are interested in obtaining an objective variety description for Wells soybeans.

This protected variety is in a blend that is presently on our certification eligibility list for Michigan.

Enclosed is a check for $2.00 to cover the cost of this description. A prompt response would be appreciated.

Sincerely,

Donald F. Miles Jr.

Donald F. Miles, Jr.
Quality Control & Field Staff Supervisor

DFM/dlc

Enclosure

FORM GR-470-2 (REVERSE)

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant shape	Beeson	Petiole angle	Beeson
Leaf shape	Beeson	Seed size	Corsoy
Leaf color	Beeson	Seed shape	Beeson
Leaf surface	Beeson	Seedling pigmentation	Beeson

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY:

VARIETY	NO. OF DAYS TO MATURITY	LODGING SCORE	PLANT HEIGHT	LEAF SIZE		CONTENT		AVERAGE NO. OF PODS PER PLANT	IODINE NO.
				Width	Length	Protein	Oil		
Submitted	115	1.6	96 cm 38"			41.1	22.1 %		
Name of similar variety Beeson	120	2.1	101 cm 40"			40.5	21.8		

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for completing this form:

1. Scott, Walter O. and Samuel R. Aldrich, 1970, Modern Soybean Production, The Farmer Quarterly.
2. Norman, A. G., 1963, The Soybean: Genetics, Breeding, Physiology, Nutrition, Management.
3. McKie, J. W., and K. L. Anderson, 1970, The Soybean Book.

LEAF COLOR: Nickerson's or any recognized color fan may be used to determine the leaf color of the described variety. The following Soybean varieties may be used as a guide to identify the colors listed on the form.

COLOR	VARIETY
Light Green	"Ada"
Medium Green	"Wilkin"
Dark Green	"Swift"

LEAF SIZE: The following varieties may be used as a guide to identify the relative size leaves.

SIZE	VARIETY
Small	"Amsoy"
Medium	"Bonus"
Large	"Anoka"

PLANT TYPE: The following varieties may be used as a guide to identify the plant type.

TYPE	VARIETY
Slender	"Vansoy"
Intermediate	"Wirth"
Bushy	"Adelphia"